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DEPARTMENT OF HEALTH AND HUMAN SERVICES

Centers for Disease Control and Prevention

[60Day-13-13JI]

Proposed Data Collections Submitted for

Public Comment and Recommendations

In compliance with the requirement of Section 3506(c)(2)(A) of the Paperwork Reduction Act of 1995 for opportunity for public comment on proposed data collection projects, the Centers for Disease Control and Prevention (CDC) will publish periodic summaries of proposed projects. To request more information on the proposed projects or to obtain a copy of the data collection plans and instruments, call 404-639-7570 or send comments to Ron Otten, 1600 Clifton Road, MS-D74, Atlanta, GA 30333 or send an email to omb@cdc.gov.

Comments are invited on: (a) Whether the proposed collection of information is necessary for the proper performance of the functions of the agency, including whether the information shall have practical utility; (b) the accuracy of the agency's estimate of the burden of the proposed collection of information; (c) ways to enhance the quality, utility, and

clarity of the information to be collected; and (d) ways to minimize the burden of the collection of information on respondents, including through the use of automated collection techniques or other forms of information technology. Written comments should be received within 60 days of this notice.

Proposed Project

Virtual Reality to Train and Assess Emergency Responders – New - National Institute for Occupational Safety and Health (NIOSH), Centers for Disease Control and Prevention (CDC).

Background and Brief Description

NIOSH, under P.L. 91-173 as amended by PL 95 -164 (Federal Mine Safety and Health Act of 1977), and PL 109-236 (Mine Improvement and New Emergency Response Act of 2006) has the responsibility to conduct research to improve working conditions and to prevent accidents and occupational diseases in underground coal and metal/nonmetal mines in the U.S.

The turn of the 21st century started with much promise for the coal mining industry. Because there was only one underground disaster in the 1990s, it seemed that emergency response in the United States no longer needed to be a top research priority. However, major coal mine disasters between 2001 and 2010 have resulted in 65 fatalities. These events highlighted the critical

need to balance investments to reduce low probability/high severity events with those that focus on frequent, but less severe injuries and illnesses.

The present research project seeks to determine optimal use of virtual reality (VR) technologies for training and assessing mine emergency responders using the Mine Rescue and Escape Training Laboratory (MRET Lab). Responders include specially trained individuals, such as mine rescue or fire brigade team members, and also managers and miners who may either be called upon to respond to an emergency situation or engage in self-protective actions in response to an emergency. This project is a step toward determining how new immersive virtual reality technologies should be used for miner training and testing in the US.

The project objective will be achieved through specific aims in the two related areas of training assessment and training development. Training assessment includes evaluating four training modules, evaluating participant reactions, and developing guidelines. Training development involves the use of 3D technologies to develop a prototype for a mine rescue closed-circuit breathing apparatus (Dräger BG4).

To accomplish these goals over the life of the project, researchers will utilize a variety of data collection strategies, including self-report pre-and post-test instruments

for assessing trainee reaction and measuring learning. Data collection will take place with approximately 150 underground coal miners over three years. The respondents targeted for this study include rank-and-file miners, mine rescue team members, and mine safety and health professionals. A sample of 150 individuals will be selected from various mining operations and mine rescue teams which have agreed to participate. All participants will be between the ages of 18 and 65, currently employed, and living in the United States. Findings will be used to improve the safety and health of underground coal miners by assessing the efficacy of immersive VR environments for teaching critical mine safety and health skills.

To assess learning as a result of training, each participant will complete a pre-training questionnaire, a post-simulation questionnaire, and a post-training questionnaire. Participants evaluating the closed-circuit breathing apparatus training will only complete a version of the pre-training questionnaire. There is no cost to respondents other than their time.

Estimated Annualized Burden Hours

Type of Respondent	Form Name	No. of Respondents	No. Responses per	Average Burden per	Total Burden Hours

			Respondent	Response (in hours)	
Dräger BG4 participants (i.e., closed circuit breathing apparatus training participants)	Pre-Training Questionnaire	30	1	3/60	2
Mine Rescue participants	Pre-Training Questionnaire	60	1	3/60	3
	Post-Simulation Questionnaire	60	1	3/60	3
	Post-Training Questionnaire	60	1	3/60	3
Mine Escape participants	Pre-Training Questionnaire	60	1	3/60	3
	Post-Simulation Questionnaire	60	1	3/60	3
	Post-Training Questionnaire	60	1	3/60	3
Mine Escape/Longwall Mining participants	Pre/Post-Training Knowledge Test	30	1	6/60	3
Mine Escape/Continuous Mining participants	Pre/Post-Training Knowledge Test	30	1	6/60	3
Mine Rescue/Longwall Mining participants	Pre/Post-Training Knowledge Test	30	1	6/60	3
Mine Rescue/Continuous Mining participants	Pre/Post-Training Knowledge Test	30	1	6/60	3
Total					32

DATE: February 19, 2013

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